



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

range extending from New York to North Carolina (and perhaps beyond this), one might suppose that this fact alone would be deemed sufficient to exclude the theory of hybridity in this case.

Within the last thirty years I have had the opportunity of observing it at different localities in Delaware and New Jersey and am now led to the conclusion that it is a variety of *Quercus imbricaria* Michx., of which we have here two forms, one with entire leaves, the other with lobed ones. On a single specimen, an oak growing in the Bartram Gardens on the banks of the Schuylkill at Philadelphia, Michaux founded his *Quercus heterophylla*. After describing it he remarks: "I was at first disposed to consider this tree as a variety of the laurel oak [meaning *Quercus imbricaria*] to which it bears the greatest affinity; but the leaves of that species are never indented, and not a stock of it exists within a hundred miles of Philadelphia." It is a tribute to the sagacity of this eminent botanist that, with only the lobe-leaved form before him, he had at that time so clearly discerned the affinity of this oak with *Quercus imbricaria*.

The evidence of this affinity may be seen when we compare (what is here taken to be) the entire-leaved form with the type and the lobe-leaved form of its variety. If further observation should confirm the conclusions here reached, and I believe that it will, it will then be proper to designate this oak by the name:

Quercus imbricaria Michx., var. *heterophylla* (Michx.).

a. ——— entire-leaved form.

b. ——— lobe-leaved form=*Quercus heterophylla* Michx.

In 1882 I found an oak in Salem Co., New Jersey, with entire leaves. Specimens from this tree were sent to Dr. Britton, who referred it to his *Quercus Rudkini* (Catalogue of New Jersey plants, p. 223). When first discovered I noticed some features characteristic of the Bartram oak to which I was inclined to refer it at the time. Later observations have now convinced me that it is the entire-leaved form of it mentioned above.

After some hesitation these views are presented in the belief that further investigation will confirm the conclusion here reached and decide a long pending question, the status of the Bartram oak.—A. COMMONS, *Wilmington, Del.*

The spines of *Cenchrus tribuloides* L.—It is a well known fact, at least to those who have carelessly handled the vile weed, that the wounds caused by the spines of the involucre of *Cenchrus tribuloides* are unusually painful and long continued. Personal experience in this regard led me to believe that there were some points about these spines that other spines did not possess and with a view to their

determination an investigation of their minute structure was undertaken. Under a low magnification a mature spine presents the appearance represented in fig. 1. Barbs of various sizes and, for the most part, uniform in shape are disposed irregularly over its surface, being more numerous and larger near the point, the tip of which is well supplied with them. The interior tissue of the spine (fig. 3) is made up wholly of very thick-walled cells, the thickening in many cases being of such an extent as to entirely obliterate the cavity. From the base to near the point of the spine throughout this tissue occur air cavities of different lengths but of nearly uniform width (fig. 1, *a*).

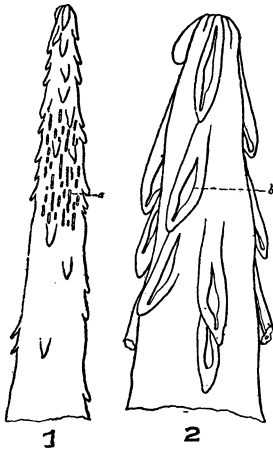


FIG. 1 and 2.—Spines of the fruit of *Cenchrus tribuloides*: 1, somewhat magnified; *a* cavities inside the spine; 2, end of the spine more magnified, *b* cavity of the barb.

is seen to have within it a cavity terminating, in the direction of the point, in a narrow tube and to be filled with a substance which in color is light purple. This, in all probability, is of a highly irritating nature and, it may be assumed, is the direct cause of the inflammation of the wound. The barb itself, or at least its point, is of very delicate texture, almost hyaline and is easily broken off; when this occurs the contents of the cavity are free to escape. The cavity seems to have no connection, in the mature barb, with the interior tissue. Neither does there appear to be any means by which the contents of the cavity may be ejected. Consequently they would escape slowly—ooze out—which would account for the prolonged irritation of the wound.—E. E. GAYLE, *Lieut. U.S. A.*

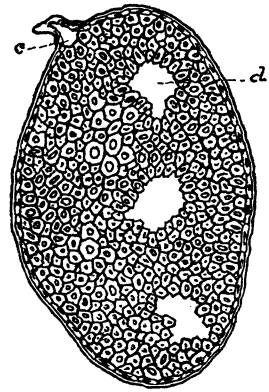


FIG. 3.—Cross section of spine: *c* section of a barb, *d* air cavity.